Amendments to the Specification:

Please insert the following sentence as the first line of the specification:

This application is a 371 National Stage filing of PCT/EP2005/002457 filed March 4, 2005, which claims priority to EP 04090284.3 filed July 21, 2004, EP 04090121.7 filed March 29, 2004, EP 04090086.2 filed March 5, 2004, and US Provisional Patent Application No. 60/550021 filed March 5, 2004, all of which are hereby incorporated by reference in their entirety.

Please delete the following paragraphs at page 64 line 27 to page 65 line 21:

Fig. 7 Demonstration of the increase of the phosphorylation activity in phosphorylation reactions when R1 proteins and OK1 proteins are simultaneously involved in the reaction Presented is the incorporation of phosphate, starting from radioactively labeled ATP (randomised ^{33}P-ATP) in the concerned starches by measuring the radioactivity (cpm] in the different starches. For this purpose, wheat starch was incubated in native form with R1 protein (Preparation 1-2, Preparation 1-2) or OK1 protein (Preparation 2), or in the form of *in vitro* phosphorylated wheat starch with OK1 protein (Preparation 3). Preparation 4 contained native wheat starch that was incubated simultaneously with R1 protein and OK1 protein. Each preparation was carried out in three repeats. The total of the respective preparations 1-2 and preparations 3 is presented for comparison.

Fig. 8 Demonstration of the increased activity through the cooperation of an R1 protein and an OK1 protein By means of an R1 protein, *in vitro* phosphorylated wheat starch was incubated for 10 minutes or 30 minutes respectively with purified R1 (Preparation 1) protein or purified OK1 protein (Preparation 2) in separate reaction preparations using randomised □/□-P^{33}ATP. In a parallel preparation, the same phosphorylated wheat starch was incubated simultaneously with an R1 protein and an OK1 protein (Preparation 3). For all reaction preparations, the amount of the

phosphate bound to the starch in the respective reaction preparation was determined after completion of incubation by means of measurement in the scintillation counter. Also presented in the figure is the total for the reaction preparations for which only one of the two enzymes was introduced respectively for the phosphorylation reaction.

Please replace the paragraphs at page 90 lines 6-20 with the following:

The conditions and buffer specified by the manufacturer were used. In addition, the reaction preparation for the first strand synthesis contained the following substances:

3 µg total RNA

5 µM 3'-Primer (OK1rev1: 5'-GACTCAACCACATAACACACAAAGATC) (SEQ ID NO: 18)

0.83 µM dNTP mix

The reaction preparation was incubated for 5 minutes at 75°C and subsequently cooled to room temperature.

The 1st strand buffer, RNase inhibitor and DTT were then added and incubated for 2 minutes at 42°C before 1 µL Superscript RT DNA polymerase was added and the reaction preparation incubated for 50 minutes at 42°C.

Conditions for the amplification of the first strand by means of PCR:

1 µL of the reaction preparation of the first strand synthesis

0.25 µM 3'Primer (OK1rev2: 5'- TGGTAACGAGGCAAATGCAGA) (SEQ ID NO: 19)

0.25 µM 5'Primer (OK1fwd2: 5'-ATCTCTTATCACACCACCTCCAATG) (SEQ ID NO: 20)

Please replace the paragraphs at page 104 line 9 to page 105 line 15 with the following:

The amplification of the DNA from rice was carried out in five sub-steps.

1. The part of the open reading frame from position 11 to position 288 of the sequence specified under ~~SEQ DIE NO 3~~ SEQ ID NO 3 was amplified with the help of reverse transcriptase and polymerase chain reaction using the synthetic oligonucleotides Os_ok1-R9 (GGAACCGATAATGCCTACATGCTC) (SEQ ID NO: 21) and Os_ok1-F6 (AAAACTCGAGGAGGATCAATGACGTCGCTGCGGCCCCTC) (SEQ ID NO: 22) as a primer on RNA of immature rice seeds. The amplified DNA fragment was cloned in the vector pCR2.1 (Invitrogen catalogue number K2020-20). The obtained plasmid was designated as pML123.

2. The part of the open reading frame from position 250 to position 949 of the sequence specified under ~~SEQ DIE NO 3~~ SEQ ID NO 3 was amplified with the help of reverse transcriptase and polymerase chain reaction using the synthetic oligonucleotides Os_ok1-F4 (CCAGGTTAAGTTTGGTGAGCA) (SEQ ID NO: 23) and Os_ok1-R6 (CAAAGCACGATATCTGACCTGT) (SEQ ID NO: 24) as a primer on RNA of immature rice seeds. The amplified DNA fragment was cloned in the vector pCR2.1 (Invitrogen catalogue number K2020-20). The obtained plasmid was designated as pML120.

3. The part of the open reading frame from position 839 to position 1761 of the sequence specified under ~~SEQ DIE NO 3~~ SEQ ID NO 3 was amplified with the help of reverse transcriptase and polymerase chain reaction using the synthetic oligonucleotides Os_ok1-F7 (TTGTTCGCGGGATATTGTCAGA) (SEQ ID NO: 25) and Os_ok1-R7 (GACAAGGGCATCAAGAGTAGTATC) (SEQ ID NO: 26) as a primer on RNA of immature rice seeds. The amplified DNA fragment was cloned in the vector pCR2.1 (Invitrogen catalogue number K2020-20). The obtained plasmid was designated as pML121.

4. The part of the open reading frame from position 1571 to position 3241 of the sequence specified under ~~SEQ DIE NO 3~~ SEQ ID NO 3 was amplified with the help of reverse transcriptase and polymerase chain reaction using the synthetic oligonucleotides Os_ok1-F8 (ATGATGCGCCTGATAATGCT) (SEQ ID NO: 27) and Os_ok1-R4 (GGCAAACAGTATGAAGCACGA) (SEQ ID NO: 28) as a primer on RNA of immature rice seeds. The amplified DNA fragment was cloned in the vector pCR2.1

(Invitrogen catalogue number K2020-20). The obtained plasmid was designated as pML119.

5. The part of the open reading frame from position 2777 to position 3621 was amplified with the help of polymerase chain reaction using the synthetic oligonucleotides Os_ok1-F3 (CATTTGGATCAATGGAGGATG) (SEQ ID NO: 29) and Os_ok1-R2 (CTATGGCTGTGGCCTGCTTTGCA) (SEQ ID NO: 30) as a primer on genomic DNA of rice. The amplified DNA fragment was cloned in the vector pCR2.1 (Invitrogen catalogue number K2020-20). The obtained plasmid was designated as pML122.

Please replace the paragraph at page 105 line 28 to page 106 line 3 with the following:

An 845 base pair long fragment of pML122 was reamplified for introducing an XhoI site after the stop codon with the primers Os_ok1-F3 (see above) and Os_ok1-R2Xho (AAAACTCGAGCTATGGCTGTGGCCTGCTTTGCA) (SEQ ID NO: 31) and cloned in the vector pCR2.1 (Invitrogen catalogue number K2020-20). The obtained plasmid was designated as t pMI45.

Please replace the paragraph at page 108 lines 17-29 with the following:

First, the plasmid pIR96 was manufactured. The plasmid pIR96 was obtained by cloning a synthetic piece of DNA consisting of the two oligonucleotides X1 (TGCAGGCTGCAGAGCTCCTAGGCTCGAGTTAACACTAGTAAGCTTAATTAAG ATATCATTTAC) (SEQ ID NO: 32) and X2 (AATTGTAAATGATATCTTAATTAAGCTTACTAGTGTTAACTCGAGCCTAGGA GCTCTGCAGCCTGCA) (SEQ ID NO: 33) in the vector pGSV71 excised with *SdaI* and *MunI*. The plasmid obtained was excised with *SdaI*, and the protruding 3'-ends were smoothed with T4 DNA polymerase. The plasmid obtained was excised with SdaI, the protruding 3'-ends smoothed with T4 DNA polymerase and a smoothed HindIII / SphI fragment from pBinAR (Höfgen and Willmitzer, 1990, Plant Science 66, 221-230) with a size of 197 base pairs, containing the termination signal of the octopine synthase gene

from *Agrobacterium tumefaciens*, was inserted. The obtained plasmid was designated as pIR96.

Please replace the paragraph at page 112 lines 17-29 with the following:

pMCS5 (Mobitec, www.mobitec.de) was digested with *BglII* and *BamHI* and relegated. The obtained plasmid was designated ás pML4.
The *nos*-terminator from *Agrobacterium tumefaciens* (Depicker et al., 1982, Journal of Molecular and Applied Genetics 1: 561-573) was amplified with the primers P9 (ACTTCTgCAgCggCCgCgATCgTTCAAACATTTggCAATAAAgTTTC) (SEQ ID NO: 34) and P10 (TCTAAgCTTggCgCCgCTAgCAgATCTgATCTAgTAACATAgATgACACC) (SEQ ID NO: 35) (25 cycles, 30 sec 94°C, 30 sec 58°C, 30 sec 72°C), digested with *HindIII* and *PstI*, and cloned in the plasmid pML4 excised with the same enzyme. The obtained plasmid was designated as pML4-nos. A 1986 base pair long fragment containing the promoter of the polyubiquitin gene from maize (Genbank Acc.: 94464, Christensen et al., 1992, Plant Mol. Biol. 18: 675-689) and the first intron of the same gene shortened by digestion with *ClaI* and religation was cloned. The obtained plasmid was designated as pML8.

Please replace the paragraph at page 113 lines 12-21 with the following:

A plasmid was manufactured in which the DNA fragment, which coded for the complete R1 protein from potato, lies between two detection sites for the restriction enzyme *Pac*I. For this purpose, the *Multiple Cloning Site* from the plasmid pBluescript II SK+ was amplified with the help of the polymerase chain reaction and both oligonucleotides MCS1-1 (TTTTTGCGCGCGTTAATTAACGACTCACTATAGGGCGA) (SEQ ID NO: 36) and MCS1-2 (TTTTTGCGCGCTTAATTAACCCTCACTAAAGGGAACAAAAG) (SEQ ID NO: 37), excised with the restriction enzyme *Bss*HII, and cloned in the dephosphorylated vector pBluescript II SK+ (Invitrogen) excised with *Bss*HII. The obtained plasmid was designated as pSK-Pac.

Please replace the paragraphs at page 115 line 29 to page 116 line 17 with the following:

The plasmid pIR94 was obtained by amplifying the promoter of the globulin gene from rice by means of a polymerase chain reaction (30 x 20 sec 94 °C, 20 sec 62 °C, 1 min 68 °C, 4 mM Mg2SO4) with the primers glb1-F2 (AAAACAATTGGCGCCTGGAGGGAGGAGA) (SEQ ID NO: 38) and glb1-R1 (AAAACAATTGATGATCAATCAGACAATCACTAGAA) (SEQ ID NO: 39) on the genomic DNA of rice of the variety M202 with High Fidelity Taq Polymerase (Invitrogen, catalogue number 11304-011) and cloned in pCR2.1 (Invitrogen catalogue number K2020-20).

The plasmid pIR115 was obtained by cloning a synthetic piece of DNA consisting of the two oligonucleotides X1 (TGCAGGCTGCAGAGCTCCTAGGCTCGAGTTAACACTAGTAAGCTTAATTAAG ATATCATTTAC) (SEQ ID NO: 32) and X2 (AATTGTAAATGATATCTTAATTAAGCTTACTAGTGTTAACTCGAGCCTAGGA GCTCTGCAGCCTGCA) (SEQ ID NO: 33) in the vector pGSV71 excised with *Sda*I and *Mun*I.

The plasmid pIR115 obtained was excised with *Sda*I, the protruding 3'-ends smoothed with T4 DNA polymerase and a *HindIII* / *SphI* fragment from pBinAR (Höfgen and Willmitzer, 1990, Plant Science 66, 221-230) with a size of 197 base pairs, smoothed by means of T4 DNA polymerase and containing the termination signal of the octopine synthase gene from *Agrobacterium tumefaciens*, was inserted. The obtained plasmid was designated as pIR96.